

CLAIMS

1. (currently amended) A screening method for identifying a methoxyphosphonate nucleotide analogue prodrug conferring enhanced activity in a target tissue comprising:

- (a) providing at least one of said prodrugs;
- (b) selecting at least one therapeutic target tissue and at least one non-target tissue which target and non-target tissues are not the same tissues;
- (c) administering the prodrug to the target tissue and to said at least one non-target tissue, provided that said tissues are not in a living human; and
- (d) determining the relative antiviral or antitumor activity conferred by the prodrug in the tissues in step (c);
- (e) and wherein the target tissue does not include small intestine.

2. (canceled)

3. (previously presented) The method of claim 1 wherein the activity is antiviral activity.

4. (previously presented) The method of claim 3 wherein the activity is anti-HIV (Human Immunodeficiency Virus) or anti-HBV (Hepatitis B Virus) activity.

5. (previously presented) The method of claim 1 wherein the prodrug is a prodrug of PMPA (9-[2-(phosphonomethoxy)propyl]adenine) or PMEA (9-[2-(phosphonomethoxy)ethyl]adenine).

6. (previously presented) The method of claim 5 wherein the prodrug is a phosphonoamidate, phosphonoester or mixed phosphonoamidate/phosphonoester.

7. (previously presented) The method of claim 6 wherein the phosphonoamidate or phosphonoamidate/phosphonoester is an amino acid amidate.

8. (previously presented) The method of claim 6 wherein the ester is an aryl ester.

9. (previously presented) The method of claim 1 further comprising selecting a prodrug having a relative activity in the target tissue that is greater than 10 times that of the non-target tissue.

10. (previously presented) The method of claim 1 wherein the target and non-target tissue are in an animal, the prodrug is administered to the animal and the relative activity is determined by analysis of the animal tissues after administration of the prodrug.

11. (previously presented) The method of claim 1 wherein activity in the target and non-target tissues is determined by assaying the amount of at least one metabolite of the prodrug in the tissues.

12. (previously presented) The method of claim 11 wherein the metabolite is the parental drug.

13. (previously presented) The method of claim 11 wherein the metabolite is the diphosphate of the parental drug.

14. (canceled)

15. (previously presented) The method of claim 1 wherein the target tissue is lymphoid tissue and the activity is anti-HIV activity.

16. (previously presented) The method of claim 1 wherein the target tissue is liver and the activity is anti-HBV activity.

17. (previously presented) The method of claim 1 wherein the target tissue is hematological and the activity is antitumor activity.

18. (canceled)